

## FUNCTION TESTING TRUCK TURBO ACTUATORS

### Problem:

The manufacturer of truck turbo systems performs several function tests on the turbo actuator to verify product performance. The turbo actuator adjusts the amount of boost provided by a turbo in a truck engine. This Smart Actuator with on-board processor communicates through CAN communications to the truck's engine.

### Test Requirement:

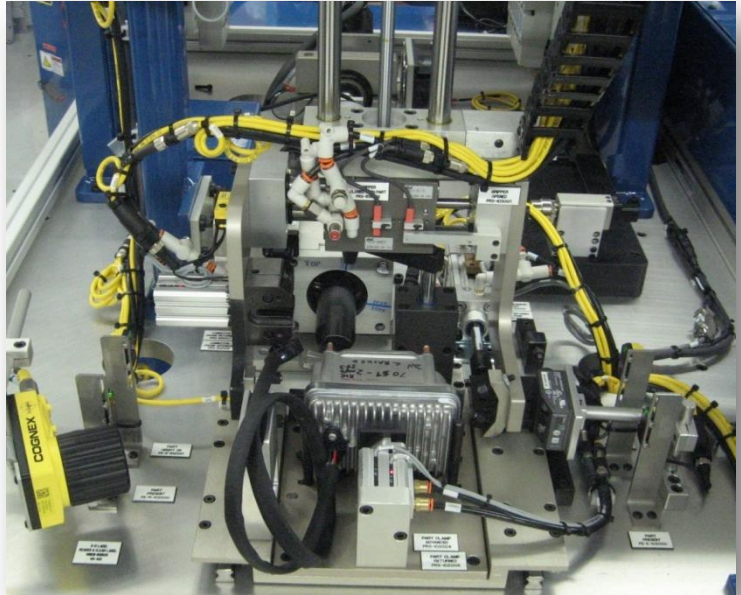
**Response Test:** Checks the speed of the actuator moving to the open position and to the closed position.

**Position Accuracy Test:** Checks the device's accuracy when moving to and holding at defined locations.

**Fail Safe Test:** Checks to make sure the unit will move to an off state position in the event of a power failure.

**Seating Torque:** Verifies the unit can produce a minimum amount of torque.

**Internal Check:** Communicates with the on-board processor to verify that registers are set to the correct values and for any internal error codes.



### CTS Solution:

Cincinnati Test Systems developed a single station test stand with an auto-unload conveyor for rejected parts. The system also includes the following features:

- Accepted parts are marked by a Pin stamp with the Julian date code and serial number.
- Dual reject lanes on an indexing reject conveyor protects parts and segregates the rejected parts.
- Adjustable actuator arm torque system capable of holding a preset torque during motion and non-motion of the actuator arm.
- Hybrid controls system using Lab View and an Allen-Bradley PLC.

### The Result:

The manufacturer is very pleased with the stand's performance and is considering purchasing more.